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An Essay
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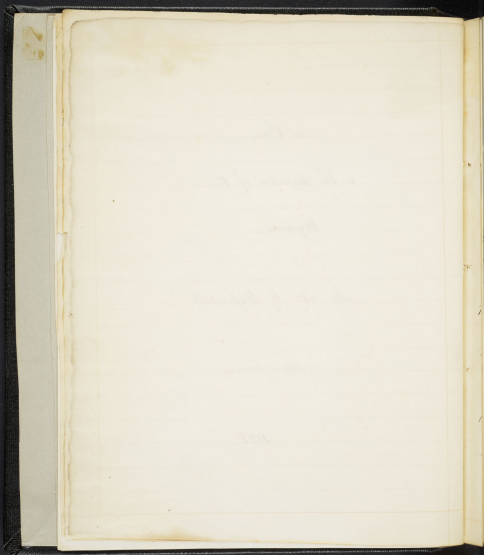
reference -
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Myrica

By W. M. Fabnestock

Pennsylvania

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H.

Nathaniel Chapman M.D.

Professor of the Institutes and Practices of Medicine and
Clinical Medicine, in the University
of Pennsylvania &c. &c.

Esteemed Friend,

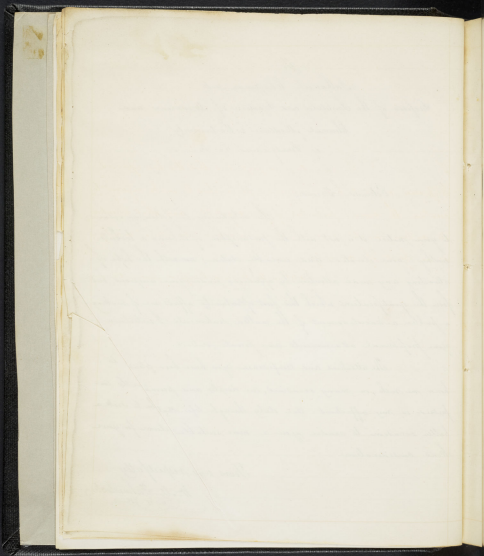
In introducing the following essay
to your notice it is not, with the presumption of it being a tribute
to your elevated and enviable station; nor with the hope of
attracting any more attention by appearing under your auspices, but
from the gratification which this first opportunity affords me of making
a public acknowledgment of the excellent sentiments I entertain
of your professional attainments and private virtues.

The attentions and confidences you have been pleased to
show me with, on many occasions, are deeply and personally im-
pressed on my affections. Our daily through life we be to seek a
better occasion to render you a more suitable return for your
kind consideration

Yours very respectfully

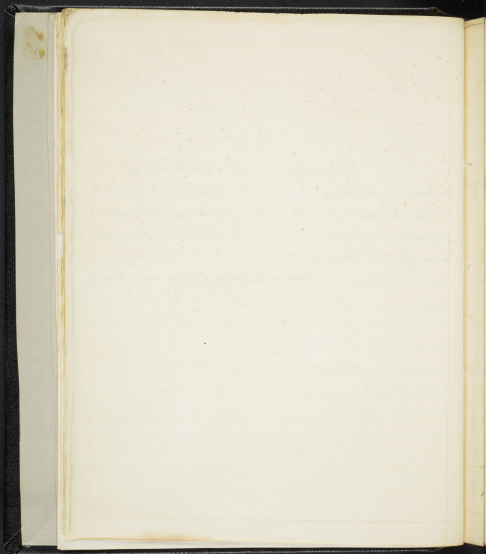
W. M. Schenck

(H. W.)



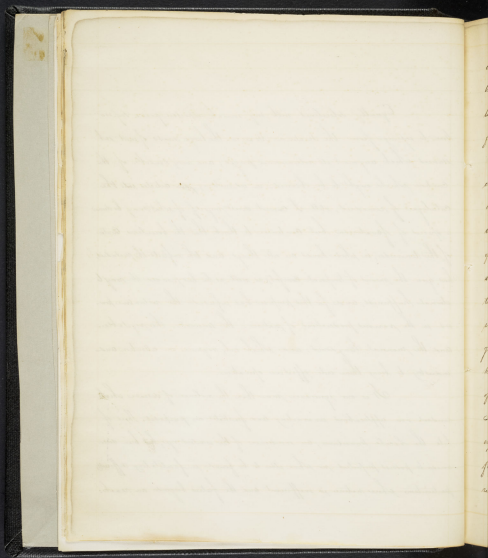
The advantageous properties that this tree appears
to possess, ought to have induced philosophers to make enquiry to
ascertain the various properties of the vegetable, and what attention
its culture might require; it has long been considered, merely
as an object of curiosity.

Extrait de la Mémoire de l'Académie des Sciences.



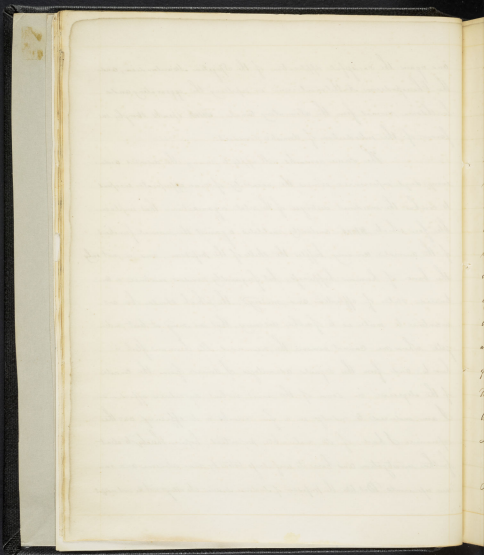
Equally solicitous with my much respected friend Professor
how to spring from the doctrine. We see the large mass of not sub-
stances which augment its voluminous pages, and very sensible of the
caution which ought to be shown in admitting new artists into the
catalogue of remedies, still I cannot divest myself of what may be deemed
a species of fanaticism, but continue to think that the boundless extent
of the Universe, in which he dwells on all things, and who reflects the pleasures
has given the means of temporal comfort, as well as he has provided the way to
eternal happiness, and for this purpose has infused the restoration pow-
ers in the various productions of nature - the animal - the vegetable
and the mineral Kingdom, and which only require an alchemic and
industry to bring them into effective operation.

It is our ignorance more than the violence of disease which
renders our applications unwarranted and frustrates our purposes. Thus of
late the Doct^r Boissier, or condenser of the wondrous op^r, has been ad-
vised to present populus, or where else to be found in facilitating difficult
parturition, where nature is sufficient and the fetus beyond our reach.



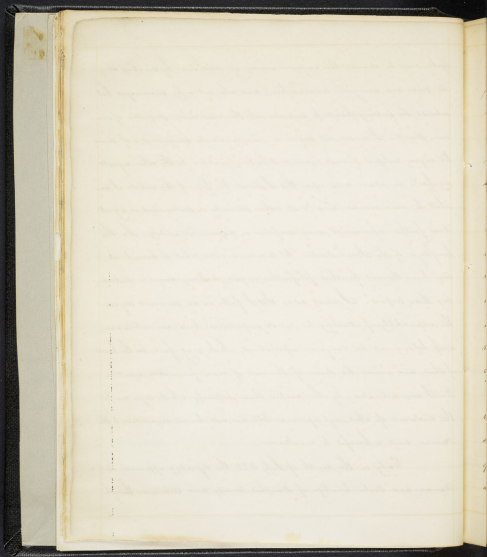
and again the successful application of the *Opium* *Stomachica*, and the *Chenopodium Anthelminticum* in expelling the irritating and loathsome worms from the alimentary canal, *Wells* speaks strongly in favour of the introduction of domestic remedies.

The same remarks will apply to many other diseases and every day's experience evinces the necessity of more appropriate means to combat the insidious destroyer of the vital organization that implacable foe which ~~it~~ constantly militates against the normal functions of the animal economy, baffles the skill of the physician, and is not only the bane of human happiness, but frequently renders existence a burdensome state of affliction and misery. He, which should be an incentive to exert is to further discovery, that in many at least mitigate when we cannot remove the numerous ills human flesh is heir to, and from the signal advantages I derive from the use of the elixir in some of the most violent dysenteric affections I am induced to indulge in a few remarks on its efficacy, and the experience I had of its valuable properties, hoping thereby to elicit further investigation and have its properties tested by more extensive and various experiments. But like the physician of medicine studies, he stays with the most respect.



igible, sure to change the opinion among of medicine, by directing it to
its true and degrading destination; and who not only encourages, but
submits the following hands to engrave into the medicinal properties of our
own plants. I would not prefer a remedy merely because it is of domestic
herb origin, unless it possess equal or superior qualities to the other agents
we have in use: and upon this I stand the fate of the article I am
about to recommend, shall still either promote its introduction or reject
it as further experiments may confirm or disprove its utility. In the
language of Sir Isaac Newton "to communicate what I have tried
and have the rest for others to further engrave all my design in publish-
ing these papers". I must add that I feel in an eminent degree
the propriety of attaching too much importance to a new substance,
or of being out to sanguine expectations, which may fail in the hands
of others, and ruin the dreams of thousands of more formidable reputations.
But I am actuated by other motives than vanity; which urge me to
the disclosure of what my experience tells me will be an acquisition to the
science, and a benefit to mankind.

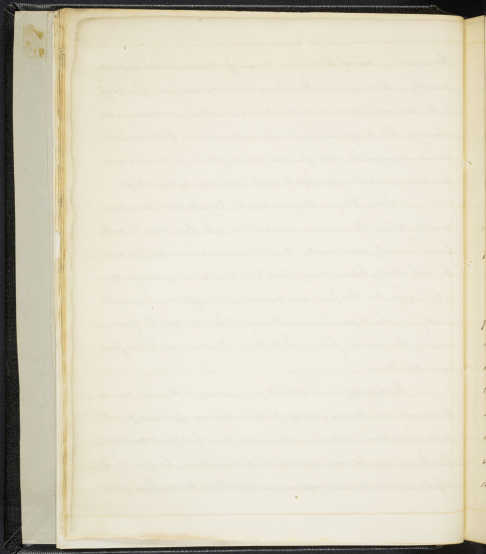
Early in the month of July 1823 the deputizing officers in
Hanson and Porters townships of Hampshire county are combined through



the extensive policy of *M. m. m.*, carrying off its victims with unparalleled
rapidity in these regions. Its violence and obstinate resistance of yielding
to the common moderate treatment rendered it truly embarrassing and
alarms. The distress in some households, and sections of the country
was almost insupportable, whole families and neighborhoods were, in a very
short period, prostrated and left to struggle with scarcely any relief.

From the year 1819, we have the same Epidemic prevailing
occasionally during the summer and autumn. In July 1822 the weather
became excessively warm and dry - Vegetation was parched and withering, and
the soil literally baked. During which time the same insidious strange dys-
entery supplanted the fever, and continued quiet after some heavy rain
in August, when it prevailed upon the wings of the storm and the former
warmth then watered fields - In ten months, Remittent and Intermit-
tent again prevailed.

The dysentery made its attack very suddenly with violent pain in
the stomach and abdomen; vomiting, some shivering effluvia, and frequent
small prostrations; stools variously mixed and of different consistencies
from bloody and in some instances nearly pure blood, but generally of
a fetid or stinky mucous appearance resembling the washings of meat



or the cause of ^{elation} ~~manic~~. Right from accompanied the present stage, but excitement increased with the initiation of the bowels, and after a few days ran into typhoid which usually terminated the existence of the patient.

It would be irrelevant to my present purpose to enter into a discussion of the etiology or pathology, which would lead me into disquisitions too diffuse to serve any beneficial purpose. Therefore, leaving them and many other theoretical subjects, I shall immediately proceed to detail the facts connected with my experience of the disease.

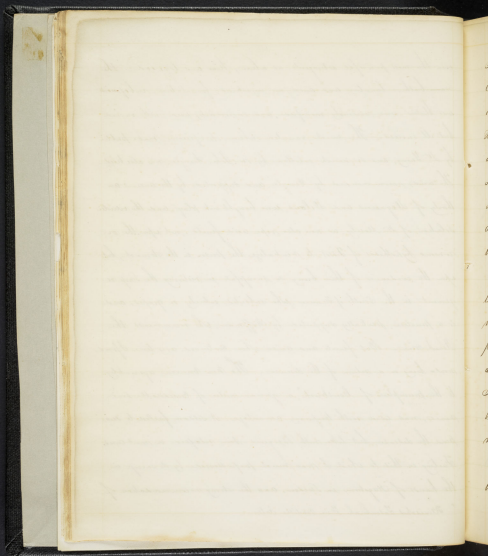
Following the practice of Sydenham patients were administered under the impression of it being bilious, or putridly connected with the fall of spirits, but without deriving the anticipated effects, while in many instances they seemed to aggravate the symptoms. Blood letting was inadmissible, from the weakness of the pulse, prostration of system and the great disposition to typhoid. It may be asked why was not some section practiced to arrest its progress in the forming stage, as it has been stated that the excitement increased with the initiation of the bowels? Or what I have already said it is only necessary to add that the disease was sudden in its attack and gradually formed before being called to

proceeds, and the system in such a relaxed state as to preclude it
as experience tells us, known persons. The fact is often shown in
epidemics, which the late Dr. Rush particularly remarks, in his notes on
Typhus "The system, not only in dysentery, but in putrid fever is some-
times so suddenly and completely prostrated, as not to admit of the use
of depleting remedies. In these cases life can be saved, only by the most
powerful stimulants." Leeches I have no doubt, would have proved
highly beneficial, but in the country we are deprived of these valuable
auxiliaries, and have to depend upon general means. Cathartics, more
than others - Calomel and Castor oil - the Succate of Magnesia and
of Soda, are particularly the obnoxious mixture, as gentle purgatives to
procure natural stools, but generally have to be abandoned, and sub-
stitute alopecurus and tares to sustain the strength of the system - Calomel
in small dose, and the antimonials as recommended by Sir George Baker.
Farquhar's formula prescription of Spemiantha and Laudanum, by
Lewis, union of Calomel and opium - Saunders and Richter's plan of
Sedatives; for which Calomel, opium and ipecacuanha were used. Some
persons James's powders, and the spiritus mindensis, with the spirit. dulc.
and benedictum - the alkali and magnesia - the balsams of Peru and

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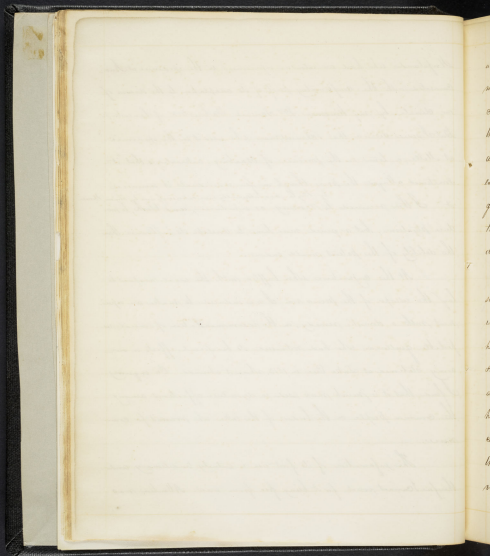
even the most powerful astringents as alum, Kino and logwood - the
warm bath - laxatives and anodyne injections, fomentations, rubefacients
and blisters were variously used, and successively used, with varied
but ill success. The much vaunted *Subum. pricipium*, made public
by St. Young, and so much extolled by Dr John Keagle, was also tried.
The acids, recommended by Keagle, and supported by the ancient au-
thority of Boerhaave and St. Louis, were brought into play, and the resolu-
tion of Dr. Morley, as was also ripe acid fruits, not upon the or-
inary hypothesis of Acid, to penetrate the viscus in the stomach, but
upon the evidence of their being so successful in restoring the Stomach
in the South of France, who submitted actively or passively, and
is a practice, partially supported by Hoffman, who recommends the
Rind wine. But fruits and acids when continued any time I pre-
sume bring on a return of the disease. The *Non Veniens* apparently
to the pamphlet of Bonstuck, a German writer of considerable emi-
nence, was used with temporary advantage: it seldom failed to sus-
pend the disease, but like with Berquin's soon relapsed, in most cases.
Failing in this to which I was much indebted by its receipt in
the hands of Hagborn in Sweden, and the strong recommendation of
Minister Ledenbach to Dr. Bonstuck's Colic.



Mufelands, who had an extensive experience in the epidemic at Anna-
Concord, with the confirmatory proof of its adaptation to the disease of
our climate, by my kinsman Dr. Samuel Hobbesworth of Lancaster, &c.
But I since discover that Schmidtman, who used it in the epidemic
at Steller, a town in the province of Osnaburg, acknowledges that "it
sometimes allays the pain, though in few individuals it cures."
3^d I then resorted to Mercury, as introduced ^{by Boyle}, and extensively used by Sydenham, Boer-
haave, &c. &c. as introduced, and black, to pro-
duce ptyalism, but required more time to develop its influence than
the debility of the patient would endure.

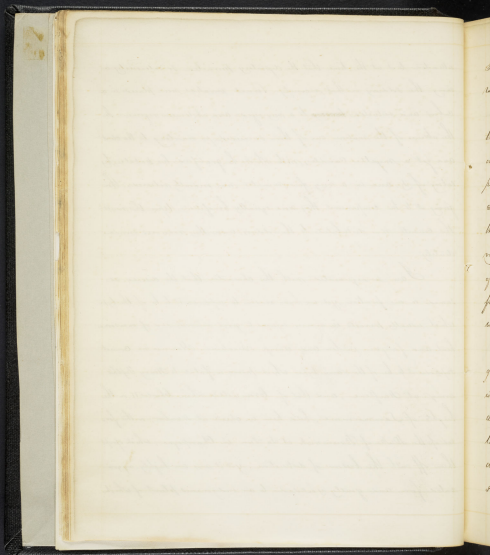
At this conjuncture when baffled with the usual means to
lay the usurper of the prima via, I was induced to make an experi-
ment with a domestic remedy, on the recommendation of several res-
pectable gentlemen who had witnessed its benificent effects in our
army stations at Lake Erie in 1813, where it abounded. On enquiring
I find that it is much more used in dysenteric affections among
the common people on the borders of the lake, who procure it for com-
monness.

The information of its first use is entirely local, and
therefore I cannot pretend for it being free from error. Attention must



attended to it at the time that the dysentery prevailed so extensively among the soldiers in that vicinity. Several privates were placed in a cab and subjected ~~thereby~~ to a very rigorous and obstinate regimen. In the absence of the surgeon one of them succeeded in crawling to the depot and got a mangel Baudouin, with which he gratified his palate by eating of it, and in a very few minutes was evidently relieved; then giving it to his companions they were equally benefitted. Upon this event the emulsion was distributed to the soldiers, and they recovered immediately.

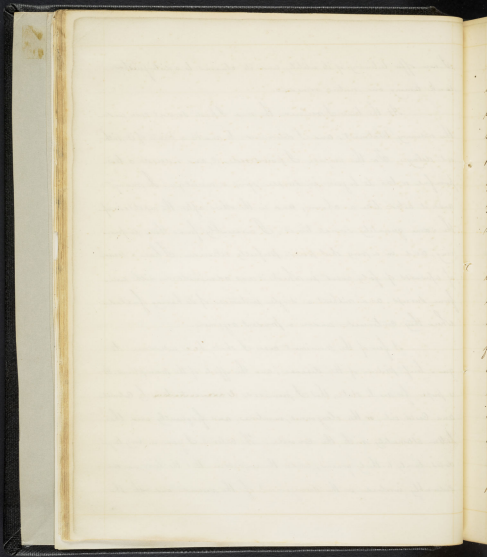
I am unacquainted with the character that the disease assumed in our frontier, yet we have reason to suppose it to be of the type which usually prevails in armies exposed to great vicissitudes of season, heat and fatigue in low and damp situations. However we cannot suppose it to be of the same type which proved so fatal to Henry Duffie's army at Banfleure, and that of Brownwell's when Blount II. on the heights of Lannormonde, held him in check at Montbar, in the face of the Duke of Brunswick at La Sarr, in Champagne, which spent them off with the business of destruction; yet it was an highly aggravated form and greatly yielded to an indigenous plant of which



I now offer testimony of its utility, and its claims to a distinguished rank among our native remedies.

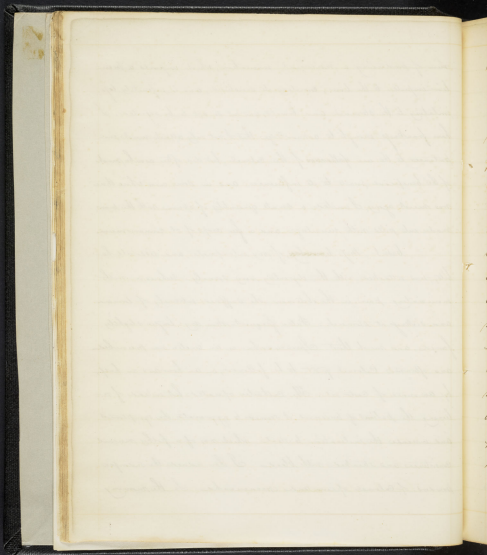
At the time I received the seed I had several cases under the ordinary treatment, and I determined to make a trial of it, without delay. For this purpose I powdered it, and reduced it to a less painful or two to be given in simple grout or suet. In many cases it acted like a charm, and in the others after the repetition of the same quantity several times, I invariably found them improving, and in a very short time perfectly relieved. I have a record of upwards of forty cases in which it was administered with uniform success, and without a single instance of its having failed where they continued under a prudent regimen.

A few of the prominent cases I shall here introduce to give a brief picture of the disease, and the effects of the medicine. It is proper for me to state, that I premixed it ~~with~~ ^{with} Calomel and Castor oil, or the oleaginous medicines, and frequently used the latter alternately with the former. The Calomel I gave in very large doses, namely to thirty grains, under the impression that the liver was considerably involved in the derangement of the viscera, and with the



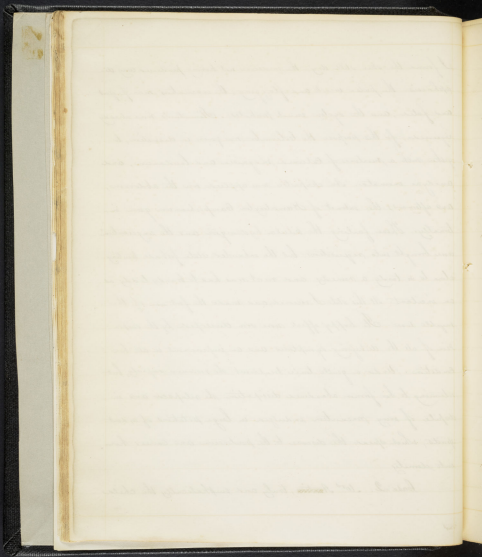
view of producing a mercurial evacuation, which imparts a new
vital impulse to the liver, exciting its secretion, and is infinitely less
injurious to the stomach and bowels, and not so apt to be rejected. I
have frankness enough to acknowledge that I not only attack much im-
portance to the use ~~of~~ of the Calomel, but also often ascribe much
of the beneficial results to its influence: and in some cases where there
was much agony, I united a small quantity of opium with the com-
mon cathartic pills with purgatives and a few drops of oil of cinnamon.

Case 2. Mrs. ~~Lowell~~, of very intemperate and dissolute ha-
bits, was attacked with the dysentery very severely. When a mil-
luminating pain in the abdomen she suffered extremely of tension
and sickness at stomach. Stool frequent - thin dry - long slightly
fleshy, and much blood. Ipecacuanha in an emetic was prescribed
and afterwards Calomel gr. x to be followed, in an hour and a half
by an ounce of castor oil. The Cathartic operated but instead of re-
lieving the patient of tension it seemed to aggravate the symptoms
and increase the inclination to stool: which was of a filthy mucous
consistence and streaked with blood. I then advised the sudorific
powders of Calomel opium and ipecacuanha. In the morning

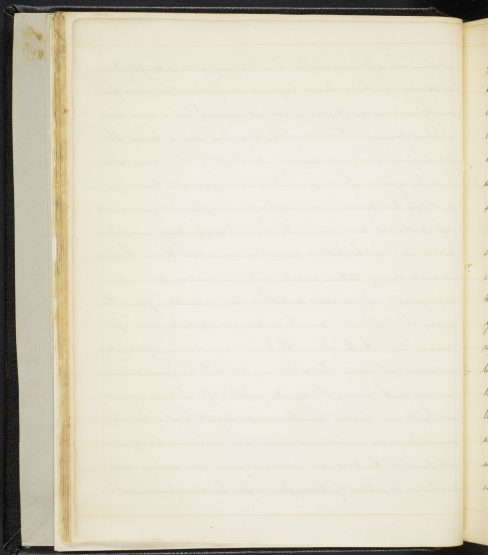


I found the skin still dry - the medicines not having produced any diaphoresis - the pulse weak and flapping, the evacuations more frequent and fetid, and the system much prostrated. Stimulants were already required; for this purpose the Columba was given in decoction, together with a mixture of Calinae, magnoliae and Caudanum, and anodyne enemata. An epispastic was applied over the abdomen, and afterwards the extract of Hamamelis Compositum was given internally. These failing the Nitrate of Hydrargyri and the Argemone were brought into requisition; but the exhausted state forbade trusting alone to so tardy a remedy and resort was had to brandy, toddy as an incitant. At this state I recurred, and made the first use of the myrtle tree. Its happy effects were soon developed by the subsidence of all the disturbing symptoms and an improvement in all her condition. Under a gentle tonic treatment she recovered rapidly, but returning to her former abandoned dissipation she relapsed and in despite of every precaution indulged in large portations of ardent spirits, which spread the disease to the puerperium and carried her into eternity.

Case 2. . 10th Section, truly and emphatically the child

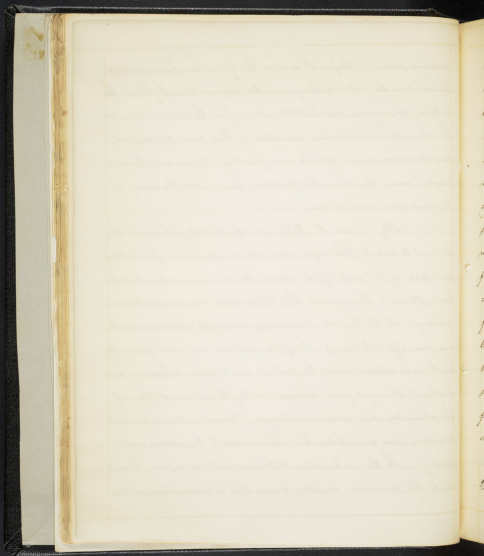


of sorrow and affliction, who had been labouring under a complication
of diseases - puerperal haemia frequent uterine floodings, but now a few
months advanced in pregnancy, and just recovered from a severe attack
of bilious fever, which had reduced her to a mere skeleton, became the
subject of this malignant disease. On the 27th of July I was called
to see her again. The disease had made its appearance the evening pre-
vious: she had passed a very restless night - Complained of much sick-
ness at stomach and pain in the abdomen and back; frequent urina-
tions to stool and but trifling evacuations mixed with blood. I administered
a small dose of Calomel and she began to vomit; which expelled
large quantities of mucus, dark blood and undigested faeces. The
grimacing abated somewhat, and the patient was apparently at ease for
several hours. In the afternoon the vomiting and staining efforts re-
newed, attended with fever. The attacks continued with laudanum was given
and early in the morning the Crocus in pills; after which she profused
and by the aid of leeches was able in a few days to be out of bed, but
very imprudently, rushed in cold water and was immediately affected
with pain in the back and uterine region; some gripings ensued;
and large quantities of blood flowed from her, accompanied with



grinding pains. Before I covered the fatal membrane had ruptured and the notes discharged. On examination I found the os uteri very rigid, and but little altered from the natural state. With the above evacuations large quantities of blood came per vaginam, and produced much debility and faintings - Opium and Spessmann's case of Opium and the Circulation of Lead, with the usual of Medicines were used in vain.

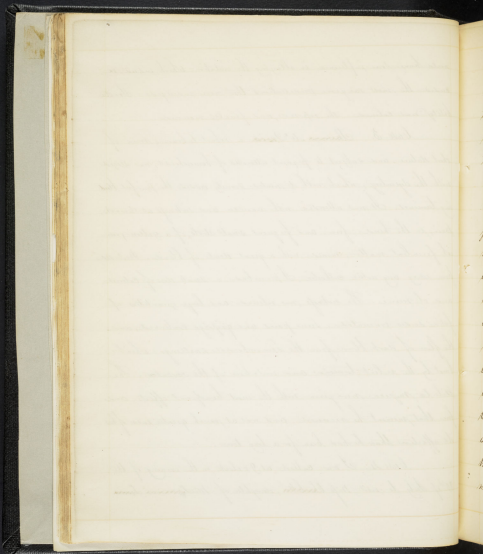
My friend Dr. Keely saw the patient with me in the state, at 10 o'clock that night; whose opinion gave me no favorable expectations of the event of the case - On an examination about two hours afterwards I discovered that the os uteri was more dilated and yielding. At this time she became very sick at the stomach and during some efforts to vomit, the falx, about one inch and a quarter in length, was expelled and the patient sank quite exhausted, and threatened the most fatal consequences by the continued flow of the uterine and uterine discharges - Camphorated oil and wine were prescribed, but only served to be adding more mischief. In this embarrassed state, and quite in despair, I resort to the powdered Conium; hoping that its tranquilizing virtues



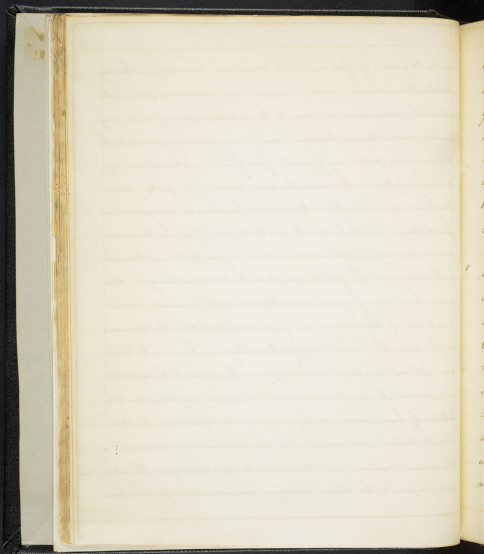
could have some influence in allaying the irritations which, indeed, exceeded the most sanguine predilections that were indulged. Irritability was calmed - the reflux, and finally removed.

Case 3. Thomas de Loria a robust laboring man of that station, and subject to frequent attacks of hemorrhoids, was seized with the dysentery, which with its violent severity added the painful bleeding tumors. It was attended with nausea and sickness at stomach; pain, in the head, fever, and frequent small stools, of a yellow-greenish feculent matter, mixed with a great deal of blood. Debarred from using any active cathartics, I prescribed a small dose of Calomel and Opium. The sickness was relieved and large quantities of fecal mucus evacuated. Some pains and gripings continued, and the flow of dark blood from the hemorrhoidal swellings, which burst by the violent tormina and irritation of the rectum. The Pilule magis were given with the most beneficial effects, and from that moment he recovered, and was at much greater ease of his old affection than he had been for a long time.

Case 4. I was called at 9 o'clock, in the evening of the 25th of July to visit Miss Charlotte, daughter of Mr. Ligonier Lewis.

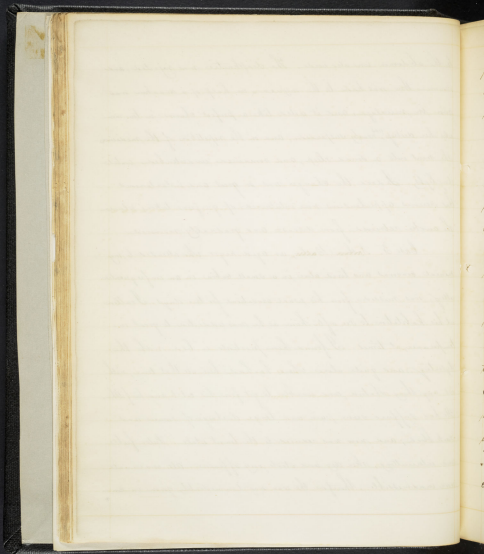


aged 15 years; of fair and rufy complexion, and uniform healthy
constitution. She was suddenly seized with spasmodic pains in the
stomach, which soon extended to the intestines, and showed itself
in the most distressing tenesmus, and severe discharges mixed with
blood. The pulse was frequent, face flushed, skin hot and dry,
and much thirst. Spicacanth and Calomel aa gr. iij. were
combined and administered, to evacuate the stomach and produce a
free discharge from the bowels. It had the desired effect: but the disease
was not subsiding in violence, and I was again called at 2 o'clock
in the morning. The febrile symptoms continued unchanged - the
evacuations very frequent and attended with excruciating pain
and tension of the abdomen. So frequent indeed were the discharges
in this case that, without exaggeration, they may be said to have
been incessant, and which requires the patient to be supported
in a position to aid its accommodation, without subjecting her to the
torment of being moved as frequently as was required. Ol. Terebin-
thinae and R. Balsam were ordered, but were not retained in the stomach -
the saline mixture with laudanum to divert action from the intes-
tinal surface to the skin - anodyne enemata and fomentations



to the abdomen was also worse. The dysphnetics was rejected, and
sawane then was had to the myrica, or half of a drachm was
given in mucilage, and it acted like a perfect charm; in ten mi-
nutes her distub^{ness}, ^{and} nearly suspended, and on the repetition of the medicine
she went into a sound sleep, and remained undisturbed until
day light. Indeed the change was so great and instantaneous
that various apprehensions were entertained of gangrene taking place.
She another retrieved from disease and gradually recovered.

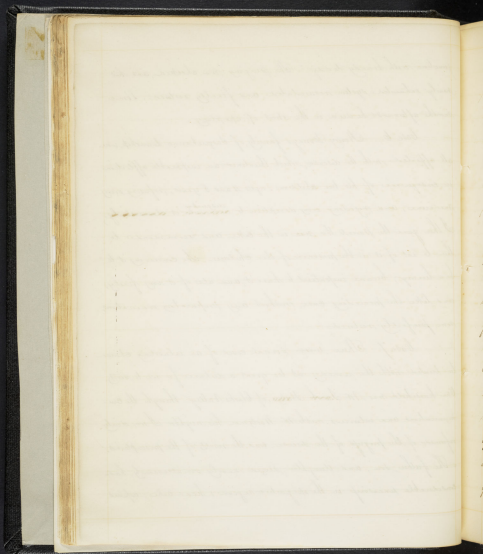
Case 3. Nathan Barber, an aged negro who attended to my
menial concerns and lived alone in a small cabin in an infrequent
alley, was missed from his usual avocations for two days. I called
at his habitation to see after him as he was addicted to great in-
temperance, at times. I found him prostrate in bed with the
dysentery, and quite alone where he had been all that time, with-
out any thing whatever, and unable to get from his bed to visit his filth.
He had suffered severe pain and large discharges of sanies and
dark blood; and now was reduced to the lowest state. Pulse feeble
and intermittent, skin dry and stark, grey offensive. All evacuations
now inadmissible, therefore the use was immediately given in en-



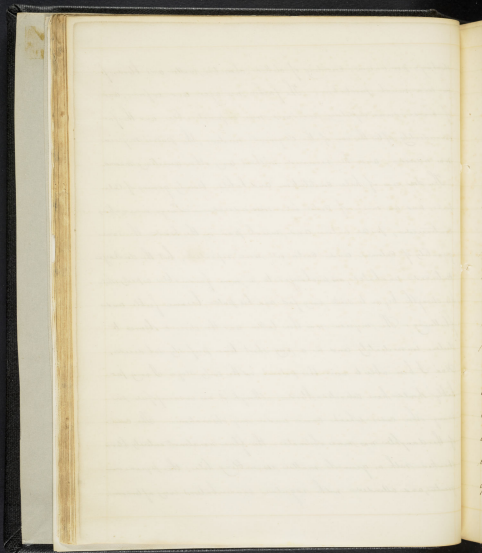
junction with brandy today. The purging was checked, and his nearly exhausted system reconstituted, and finally restored. Some months afterwards he died in the midst of erysipelas.

Case 6. Henry Brown's family, of Despatchanna township, was all affected with the disease, which threatened an impetuous affection in consequence of his two children, ages 4 and 5 years, refusing every medicine, and yielding every description to ^{caustics} ~~anodynes~~ it ~~caustically~~. I then gave the parents the ~~mea~~ in the cake, and recommended to them to eat of it in the presence of the children, who conceiving it to be a luxury, became impatient to have it, and ate of it very freely; and like the preceding case, without any preparatory evacuations, was perfectly restored.

Case 7. There were several cases of an interesting character treated with the remedy at too great a distance for me to visit. Our household was Mr. Jacob Hodge, of Black's Valley, through the communications and interviews with Mr. Wortzner his neighbor I was daily informed of the progress of the disease, and the results of the prescriptions. The father, son, and daughter, seized nearly simultaneously, had considerable puerperium in the epigastric region; head aches; epistaxis



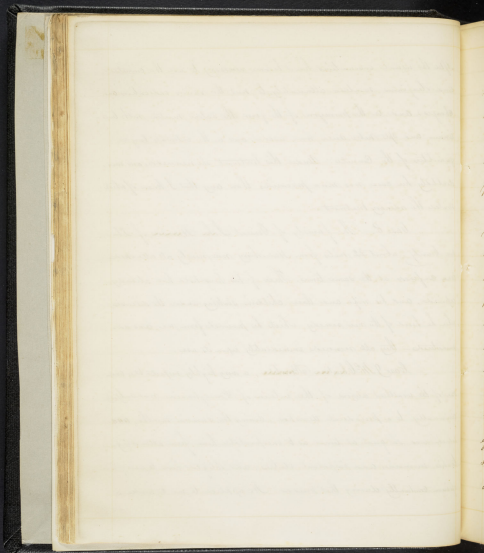
discharge per anum, consisting of clotted chocolate matter and blood; fo-
vo, and much prostration. The father was aged and infirm, and
of course, some debilitating measures were impracticable; and therefore
immediately after the use of the opium, medicine, the putrid myxema
was removed; and he recovered without any other auxiliary means.
— The son was of hale constitution and habits. twenty grains of Calo-
mel, and an ounce of Castor oil, ~~was ordered~~ — Large evacuations
continued, pulse action and much pain in the bowels the same
quantity of Calomel and Castor oil, were repeated, but the discharge
continued unabated, and unchanged to a more favorable aspect, while
his strength began to sink, very fast and his pulse became feeble and
fluttering. The myxema was then taken and the disease abated to
decline immediately and in a very short time perfectly subsided.
Hence I have been able to visit this patient in the early stage. I very pro-
bably should have extracted blood, although it was unsuccessful in
many other cases which came under my observation. — The case
of the daughter was more obstinate — the flux was almost entirely blood
streaked with a grumous matter resembling bile; the pyrexia
greater, and attended with regular exacerbations every afternoon.



After the usual evacuations had become necessary to ease the countess and oblige her to alternate, to meet the various indications and changes: and in the paroxysms of the fever the salina mixture with low-diet and op. rubr. Aule, were used; and in the intervals larger quantities of the Countess. Under this treatment she recovered, and undoubtedly her case was more precarious than any that I know of which suited the ordinary treatment.

Case 8. The family of General John Harris, of Lancaster County, about 22 miles from Hanover now nearly all attacked and confined at the same time. Three of his household had already expired, and his wife and three children sinking under the disease, when he heard of the new remedy, which he procured from me, and administered - they all recovered immediately upon its use.

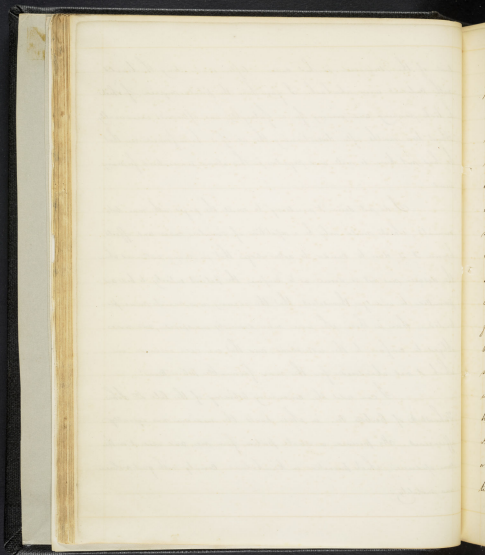
Case 9. Mr. Christian Stouffer, a very highly respectable and one of the wealthiest citizens of the interior of Pennsylvania was subject annually to a periodical diarrhoea, during the summer months, and which was so great at times as to incapacitate him from attending to his numerous and important duties; and obliged him to use opium constantly during that season. He applied to me to make a



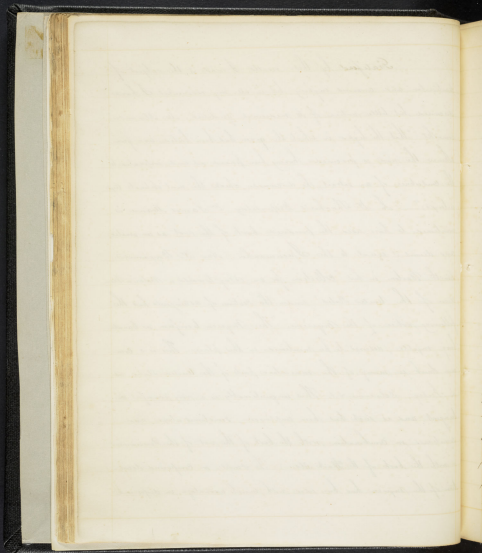
trial of the suppurative in that case - After evacuating the breast
with calomel and abscess I gave him the pilules, suppurative of which
he took morning and evening for a fortnight; and afterwards occasionally.
About two months after discontinuing the use of it he informed me that
he had not been so well and regular in his chronic evacuation for many
years.

I do not deem it necessary to swell the pages with more testi-
monials, which would only be a repetition of similar cases and efforts,
known it is due to candor to acknowledge that in many instances where
the disease was not so severe as to confine the patient entirely to bed and
permit him to indulge himself, that the recovery was much more fre-
quent, than in those who were more severely indisposed, and more
obliged to conform to the restrictions; and that one case occurred in
which it was abandoned for the more favorable pilule (Bism.)

I can add the encouraging testimony of the late Dr. John
Schubert, of Carlisle Pa. in whose house the medicine was regularly
administered. He procured a small pilule from me, and used it in the
same epidemic, which prevailed in Cumberland County with great violence
and mortality.



Satisfied by these results I made it the subject of particular and anxious inquiry, but in all my researches I have discovered but little notice of its medicinal qualities. Dr. Stearns remarks "that the liquor in which the galls had been boiled was from whence the mass is prepared, having been poured out and evaporated to the consistency of an extract," he discovers, extracts the most delicate ingredients."— In Dr. Thacher's Dispensatory Dr. James Stearns is mentioned to have used the powdered bark of the root as an emetic and deems it equal to the Ipecacuanha. And Dr. Benjamin Smith Barton in his "Collection for an essay towards a Materia Medica of the United States" under the section of astringents has the following notice of the *Myrica*. "The *Myrica brevifolia*, or basketberry myrtle, deserves to be mentioned in this place. This is a common shrub, in many of the mountainous parts of the United States, as in Jersey, Delaware &c. This unquestionably is a very powerful astringent, and as such has been employed, sometimes alone, and sometimes in combination with the bark of the root of the *Cassipourea*, or with the bark of the Black cedar. The simple or compound decoction of the *Myrica* has been used with much advantage in dyspepsia

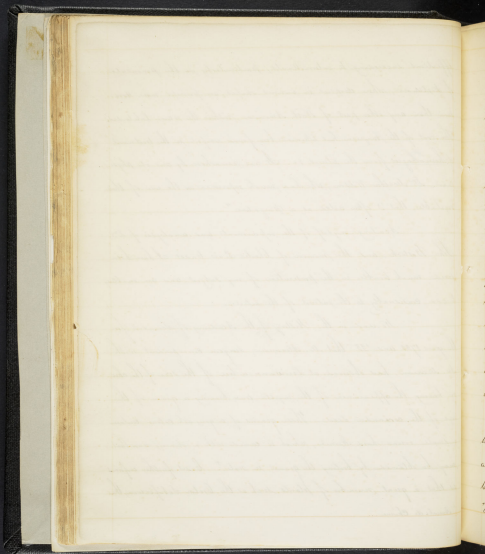


affections according to practitioners, particularly in the peninsula
of Hispania, where dropped in various shapes, are perhaps more com-
mon than any other part of North America, within the same latitude.
The root of the myrica has likewise been found useful in the treatment
of hemorrhages from the uterus. It was recommended by one old physi-
cian, Dr. Weather Wilson, who had much experience in the use of this
vegetable, that it often acted as a spongative.*

Awaiting myself of the experiments and analysis of Dr.
John Butcher, and the memoir of Charles Louis Boerhaave I have been
sorely much troubled in the prosecution of my subject, and am enabled
to add considerably to the interest of the article.

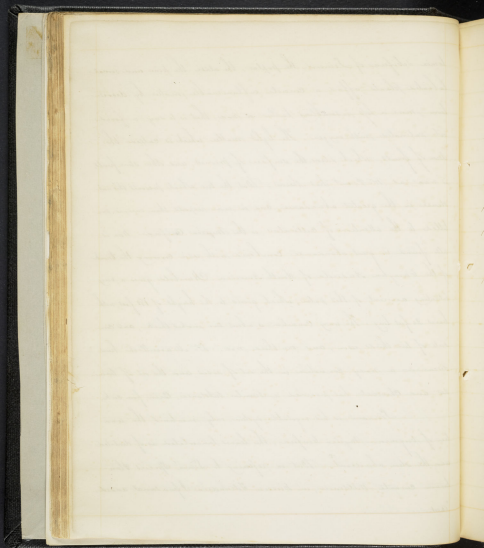
It is read in the History of the Academy of Sciences for
the years 1722 and '25 that Mr. Stenonius, surgeon correspondent with
Mr. Stenonius, had observed at Louisiana a tree of the size of the che-
ry having the appearance of the myrtle, and bearing a grain of the
size of the coriander seed. These grains of a grey ash colour contain
a small round hard kernel, which is covered with a shining rind that
may be obtained by boiling the grains in water. Cadet further informs
us that a great number of plants such as the brodiaea scabiflora, the

* Annals de Chimie.



lenses" sebaceous of Linnæus, the poplar, the alder, the pine and several
labiate plants afford a concrete inflammable matter by dissem-
ination, more a soft resembling tallow a mass, that is to say, a fixed
oil saturated with oxygen. The light matter which is called the
dew of fruits, which covers the surface of pines, and other stone fruits
is resin, as Mr. Bonnet has shown. But the tree which presents this sub-
stance in the greatest abundance, and in more respects than one, is our
little tree to the attention of cultivators, is the *Myrica Cerifera*. It is
also found in great abundance combined with resin covering the trunk
of the bayonet *Avicula* of South America. Humboldt gives a very
interesting account of this palm, which grows to the height of 150 feet, with
trunk 30 feet long. The young Cerifera is about two inches thick, and con-
sists of two thirds resin, and one third wax. Dr. Macculloch has
discovered a resinous concretion in the oil of roses and the oil of turpen-
tine; and Chevreul has procured a similar substance, Givis, from cork.

Linnæus, in his vegetable system, only mentions the resin
tree of Virginia *Myrica cerifera*, the leaves lanceolate as if dentated,
and the stem abundant. But in referring to *Sesuvium Opuntia Flau-
bium curatæ* Willdenow, in *Binaria Polyanthes* I find some added.
* *Quercus* *...*



Myrica distogyncha var.

1. *Myrica brevica angustifolia*, which grows in Louisiana. This tree is very delicate, and its grains smaller than the following: 2. *Myrica brevica latifolia*, which grows in Pennsylvania, Barbadoes and Virginia, does not rise as high as the former. These two *Myrica* are distinct.

But Reichard admits of a third species of *myrica confusa*, which he calls the dwarfed tree: and Dr. Roemer believes that some may be procured from all the *myrica*.

Park, more recently, and who is considered a most authority, in *Cap. Declinaria*, adn. *Strombacea*, has the following four species:

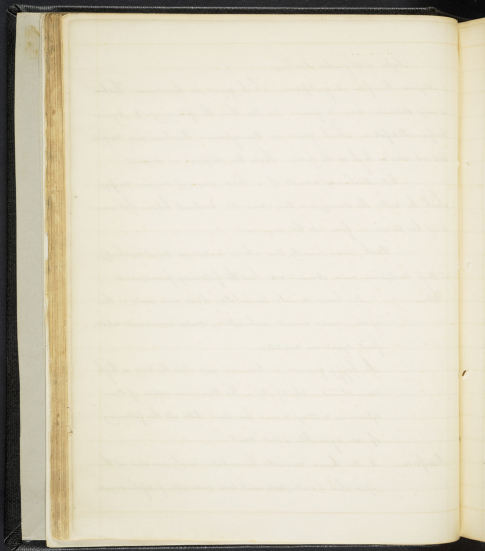
Table

1. *Myrica* leaves serrate-lanceolate, white and serrate at the apex, male anthers imbricated, scales acuminate ciliate, fruit squamose capitate.

In boggy grounds in Canada, and about the lake on high mountains: plentifully on the Broad mountains of Pennsylvania. & May & c. a low shrub like all the following of an agreeable sweet scent.

Myrica

2. *Myrica* leaves serrate-lanceolate, rarely serrated at the apex which is acute, male anthers loose, scales acute fruit globose small.

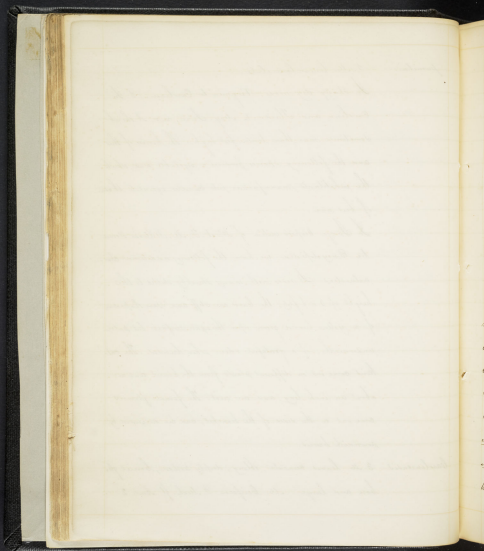


pumila B. M. linear-lanceolate.

In thirty dry m^{os}s, Virginia to Carolina. In
Carolina and Florida, to May. June, &c. I think
sometimes more than twelve feet high. The berries of this
and the following species produce a vegetable wax, which
the inhabitants manufacture into candles equal to those
of bees wax.

The large broom-vetiver of St. St. R. de, Millishe Home. In Encyclopaedia we have the following additional characteristics. It rises with many shrubby stalks to the height of 3 or 5 feet; the leaves are stiff and open the pieces of a yellow lucid green upon the upper surface but pale underneath; of a grassy odor when crushed. The catkins come out on different plants from the berries and are about an inch long, and an inch. The female flowers come out on the sides of the branches, and are succeeded by pear-shaped berries.

Carolinensis 3. St. leaves cuneate, oblong, deeply toothed, beneath glabrous and larger. 4. Girders 3. Mich. fl. Am. 2.

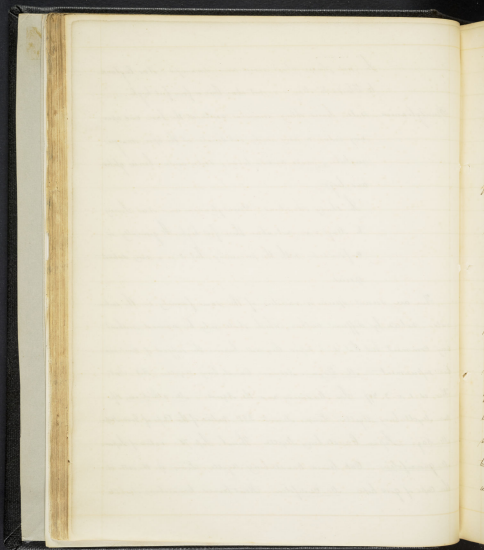


In wet places about rivers and swamps: New England
to Florida. May & v. not above three or four feet high.

Pennsylvanica. N. E. leaves oblong somewhat acute at the base and apex,
very entire or very rarely not dentate at the apex, margins
revolute, male aments lower, scales acute, berries globose
and large.

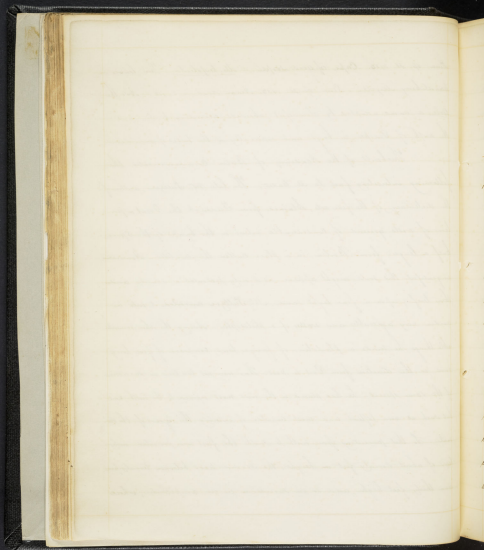
In shady situations: Pennsylvania and New Jersey.
N. May & v. not above three feet high. It generally is
confounded with the preceding, but it is a very distinct
species.

There are several species or varieties of the same family in the eastern
states, noticed by different authors, which shall only be named without
any comment but that it is hoped they will become the subject of compara-
tive experiment. *U. Faga*. American handberry Myrtle. Bot. Bot.
Nov. ed. 1. v. 2. 277. In Madras and the Azores. - *U. elliptica*, Afri-
can Myrtleberry Myrtle. Linn. Mant. 398. Native of the Cape of Good Hope.
U. Stagi. Japan handberry Myrtle. Thunb. Sup. 76. native of Japan.
U. paniculata. Oak leaved handberry Myrtle. Linn. Sp. Pl. 1488. at
the Cape of Good Hope. *U. Canifolia*. Sweet leaved handberry Myrtle.



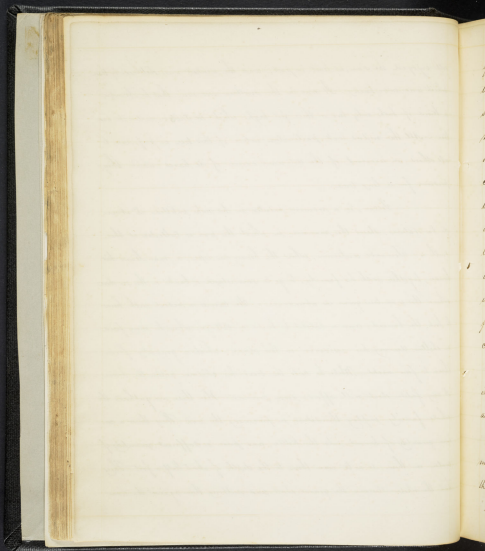
Lin. sp. 11. 1810. Cope of Gerd's Steep. — St. trifoliate. The leaves
broadly ovate. Lin. sp. 11. 1812. Amor. Steep. s. 1. 1812. For the
Gale, a name adopted by Tournefort, abounds according to Linnaeus in
the north of Europe, in bogs and especially at the bases of mountains.

Thebault of the Academy of Berlin communicated the
following interesting fact to M. Cuvier. The late Mr. Sallier, author of
the dictionary of the fine arts, obtained from Frederick the Great a por-
tion of waste ground of considerable extent on the banks of the Spree,
half a league from Berlin, in a place called the steatites. However
ungrateful this soil might appear as it only presented a scrubby and
thin turf, upon a fine light sand, Mr. Sallier converted it into a
garden very agreeable and worthy of a philosopher. Among the other remark-
able things he made a plantation of foreign trees, composed of five long
rows, in the direction from East to West. There were not two trees in succession
of the same species: he has placed in the rows most opposite to the north, and
but such as were light and most capable of withstanding the rigours of the cli-
mate. So that proceeding from north to south the first row presented only
trees of about twenty feet in height, the second trees between twenty-five
and thirty feet high, and so in succession in an amphitheatre, where



all enjoyed the sun, at least in part, and the weakest were sheltered by them which were more hardy. It was in the southernmost row that he observed a kind of bush only two or three feet high, which Mr. Sutger called the wax tree. All the visitors took particular notice of this tree in preference to all others, on account of the delicious taste of its leaves, which they preserve for a long time.

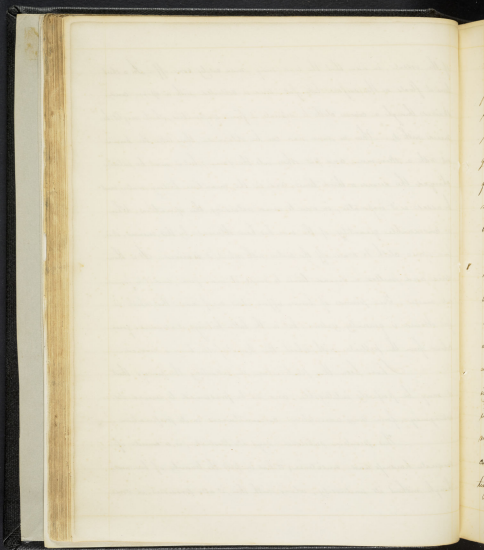
Below, in a previous relation in his work, entitled *L'Ami de la Nature*, shows the manner in which the wax is collected at the south. Towards autumn, when the berries are ripe, a man leaves his house, together with his family, to go to some island or bank on the sea shore where the wax tree grows in abundance. He carries a basket with him to put the berries, and a hatchet to build a cottage where he may find a shelter during his residence in this place, which is generally from three to four weeks. While he cuts the trees his children gather the berries. A very full bush will afford seven pounds. When these are gathered the whole family employ themselves in processing the wax. They throw a certain quantity of berries into the kettle, and pour a sufficient quantity of water on them, so as to cover them to the depth of about half a foot. They boil the whole stirring the grains about and putting them against the sides



of the vessel; in such that the wax may more easily come off. In a short time it floats on the surface like fat, wax is collected with a spoon and strained through a coarse cloth to separate it from impurities, which might be mixed with it. When no more wax can be obtained, they take the berries out with a strainer, and put others into the same; but it must be entirely changed the second or third time, and in the mean time boiling water must be added as it evaporates, in order to avoid retarding the operation. When a considerable quantity of the wax has been obtained by this means, it is laid upon a cloth to drain off the water with which it is mixed. It is then dried and melted a second time to make it more pure, and it is formed into masses. Four pounds of berries afford about one of wax: that which is first obtained is generally yellow; but in the latter boilings it assumes a green colour from the pellicle with which the kernel of the berry is covered.

I have been thus particular, in extracting the process that it may be perfectly intelligible, and not be presumed to arise its ascription, from any adventitious circumstances in its preparation.

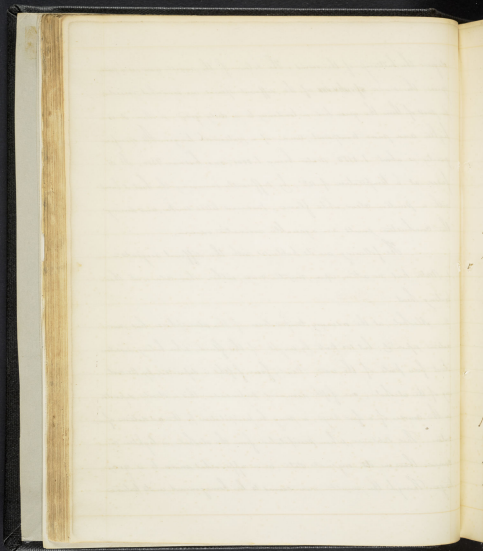
This peculiar substance, says Dr. Boerhaave, is a concretion of succulent hardness and consistency; it has in part the tenacity of bees wax, though without its ductility; along with this, it also possesses, in some



degree the buttering of the resin. The colour of the myrtle wax is a pale green; the ~~various~~ ^{specific} of the different species are somewhat peculiar, in most of them the green has a tendency to a dirty grey; in others it is lighter and more transparent, and of a yellowish tinge. Its specific gravity is about 1.0150, water being 1.0000, and balsam 9800. It is fused at a temperature of 125° ; by sufficiently raising the heat it burns with a peculiar clear, white flame, produces little smoke, and during the combustion emits an agreeable aromatic odour.

The following are its qualities, with the different reagents—

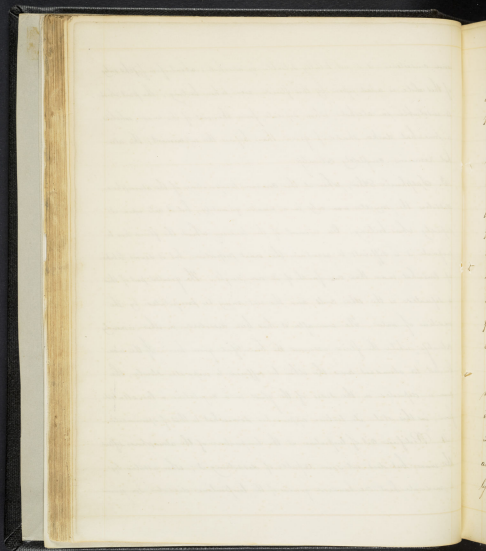
1. Water has no action upon myrtle wax, either when cold or at the boiling heat.
2. Alcohol, at the ordinary temperature of the atmosphere, has no action upon it; but 100 parts, by weight, of this fluid, when boiling, dissolve about four parts of the wax. Nearly four fifths is deposited by the cooling of the alcohol; one fifth remains dissolved; this is slowly deposited in the course of a few days, or may be precipitated by the addition of water. This substance, when precipitated from the alcohol, is lighter coloured than in its original state, and approaches more to a grey tinge. Though the myrtle wax seems to be homogeneous in its texture



and consistence, it is not totally soluble in alcohol: about four fifths only of the whole is acted upon by this fluid, even when boiling. The part which is insoluble in alcohol, when separated from the rest of the mass, exhibits a somewhat darker shade of green than before the experiment; the alcohol remains completely colourless.

3. Sulfuric Ether, when at the common temperature of the atmosphere dissolves the myrtle wax only in a small quantity, but it acts upon it rapidly when boiling. On account of the tendency which the fluid has to evaporate it is difficult to ascertain the exact proportion, but it seems to take up somewhat more than one fourth of its own weight. The greater part of this is separated as the ether cools, and the rest may be precipitated by the addition of water. The wax after it has been dissolved in ether, is nearly colourless, while the fluid assumes the beautiful green hue. If the wax be not too abundant and the ether be suffered to evaporate slowly, the wax is deposited on the sides of the glass in a crystalline lamellated form; in this state its texture approaches somewhat to that of spermaceti.

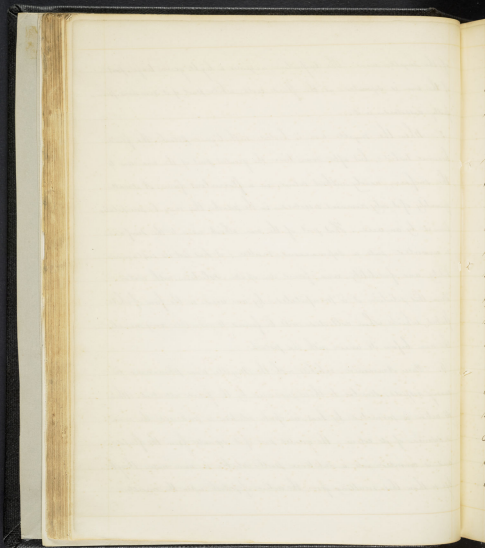
4. Petroleum Oil of turpentine at the temperature of the atmosphere softens the wax, but does not seem capable of dissolving it; when assisted by a moderate heat one hundred grains of the turpentine dissolves in grain



of the myrtle wax. The turpentine acquires a light green tinge, part of the wax is separated as the fluid cools, while part of it remains perfectly dissolved in it.

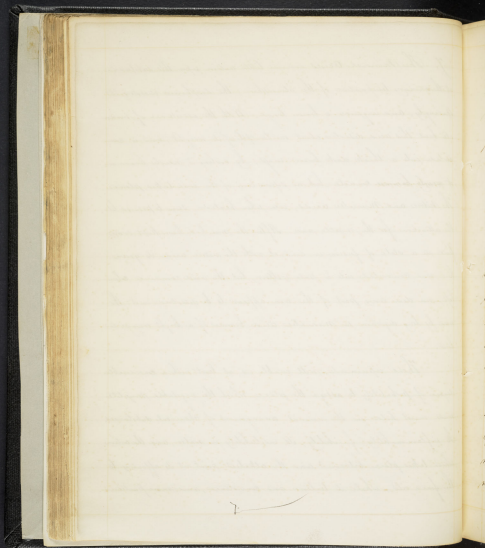
5. When the myrtle wax is boiled with liquid potash, the fluid becomes turbid, but after some time the greater part of the wax rises to the surface, nearly without colour, in a flocculent form. A small quantity of it only remains dissolved in the potash; this may be precipitated from it by an acid. That part of the wax which rises to the surface is converted into a saponaceous matter; it has lost its inflammability and fusibility, and forms an opaque solution with water. From this solution it is precipitated by an acid in the form of white flakes, which when collected will be found to resemble very nearly the wax before its union with the potash.

6. Pure Ammoniac exhibits with the Myrtle wax phenomena in many respects, similar to those produced by the former alkalies. When its action is promoted by heat, an opaque solution is produced, the wax is deprived of its colour; the greater part of it separates from the fluid, and is converted into a substance partly soluble in warm water, though less so than that resulting from the action of potash upon the myrtle.



7. The Mineral Acids exercise little action upon this substance at the ordinary temperature of the atmosphere; the sulphuric dissolves it sparingly, and acquires a brown tinge. With the assistance of moderate heat this acid dissolves about one twelfth of its weight, and is converted into a thick, dark brown mass; by cooling it nearly becomes a perfectly homogeneous enamel, but no separation of the iron takes place. The nitric and muriatic acids, even when heated, seem to possess little attraction for the pyrolite mass. After the mass had been kept some time in a state of fusion in contact with the nitric acid, its green hue was converted into a pale yellow, but the acid remained unchanged, no distinct part of the mass appear to be dissolved out: the mass by long digestion in muriatic acid becomes of a bright orange colour.

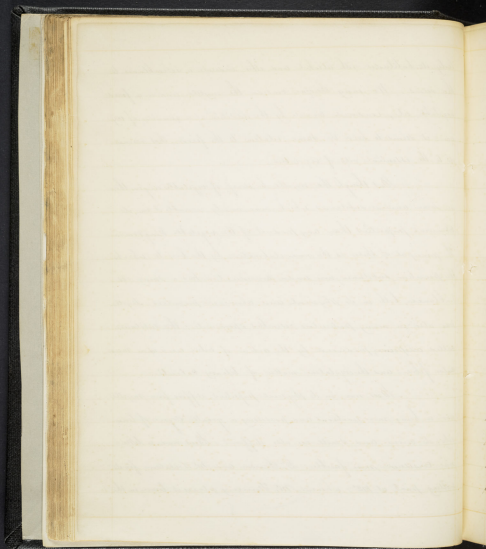
These experiments will enable us, at least with a considerable degree of probability to assign the place which the pyrolite mass must hold in the natural arrangements of chemical substances. Its inflammability, fusibility, its insolubility in water, and the action which takes place between it and the alkalies, point out its affinity to the fixed oils, while its texture and consistence, and more particularly



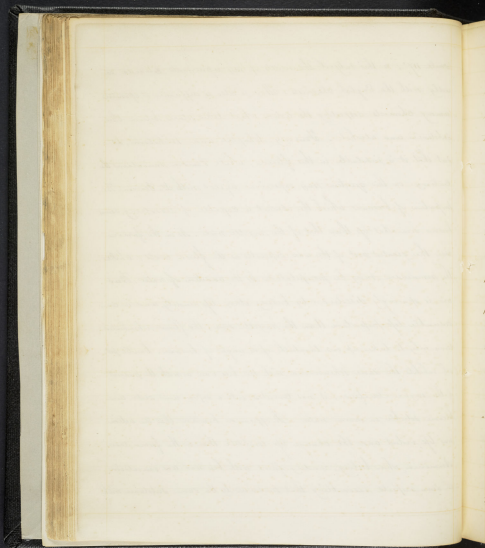
lately its bakiides with alcohol and ether, indicate a resemblance to the resins. We may therefore consider the myrtle resin as a fixed vegetable oil, rendered concrete by the addition of a quantity of resin; it seems to hold the same relation to the fixins, that resins do to the essential oils of vegetables.

But though the myrtle be supposed of vegetable origin there are some animal substances which more nearly resemble it in its chemical properties than any product of the vegetable kingdom. The principal of these is the resin elaborated by the bee to which the present substance, now under consideration, has a strong resemblance, both in its physical and chemical properties. Myrtle resin also in many particulars resembles spermaceti; the substance called adipocera produced by the action of nitric acid upon musculus fibra: and the crystalline matter of lithic calculi.

Bees resin in its physical properties, differs from myrtle resin in being more tenacious and possessing a greater degree of elasticity; its colour and smell are also different. Bees resin is likewise considered more fusible: Dr. Thomson and Mr. Nicholson fix its melting point at 102° ; whereas Mr. Lavoisier places it lower in the



scale 117°; on this subject the results of my experiments coincide exactly with the English chemists. There is also a difference of opinion among chemists respecting the action which takes place between this substance and alcohol. Fourcroy, Chaptal and Nicholson, assert that it is insoluble in this fluid, while Berzoni maintains the contrary. On this question my experience agrees with Dr. Berzoni. The preparation of barium which the alcohol is capable of dissolving seems however somewhat less than that of the myrtle wax. As in the former case the greatest part of the wax separates as the fluid cools; while the remainder may be precipitated by the addition of water. But wax is sparingly dissolved by boiling ether, less readily, and in considerable less proportion than the myrtle wax; the fluid, when heated, seems only to take up one twentieth of its weight of barium. Barium pot. ash exhibits the same phenomena with the bees wax as with the product of the myrtle confusus; it was converted into a saponaceous state and became soluble in warm water. It appeared however that the action was less violent and the change less complete than in the former case. Ammonia, when boiling, readily forms with bees wax an emulsion, in some respects resembling that produced by the same substance with



the myrtle wax. As the mixture cools, the greatest part of the wax rises to the surface in a flocculent form; it appears to have so far contracted a union with the alkali as to have its texture and odour destroyed, and its fusibility and inflammability diminished; yet it is a little if at all, soluble in water. Upon the whole though they possess certain properties in common, and have a degree of similarity in their external appearance, yet they differ materially in their chemical nature.

Lavoisier first made us acquainted with the chemical composition of oil, and proved that it consists of hydrogen and carbon. This great philosopher also demonstrated that the wax differs from oil in containing a greater proportion of carbon; there is every reason to believe that a quantity of oxygen likewise enters into its composition[†].

According to Gay Lussac and Berard, Common Yellow Wax is composed of

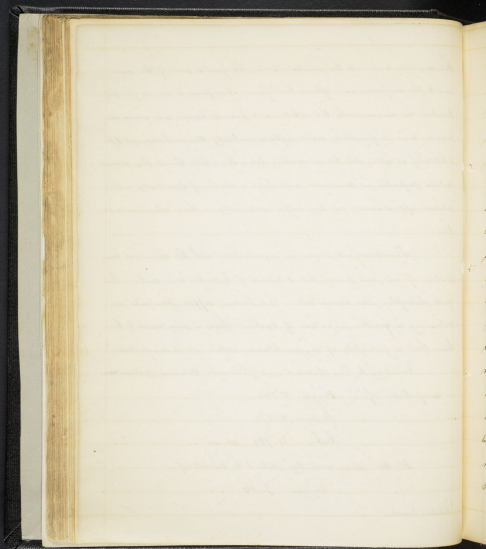
Oxygen 5.344

Hydrogen 12.672

Carbon 81.784. 100.000.

Dr. Berzelius more recently states it to consist of -

Oxygen 7.94

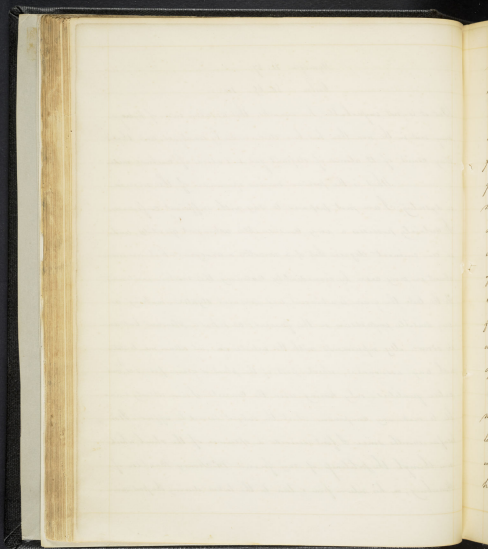


Hydrogen 11.27

Carbon 58.69 100.

But it is not improbable, he remarks, that an atom more of hydrogen may exist in the resin than has been discovered by analysis, one that is many times of 12 atoms of elefant gas + 1 atom of carbonic oxide.

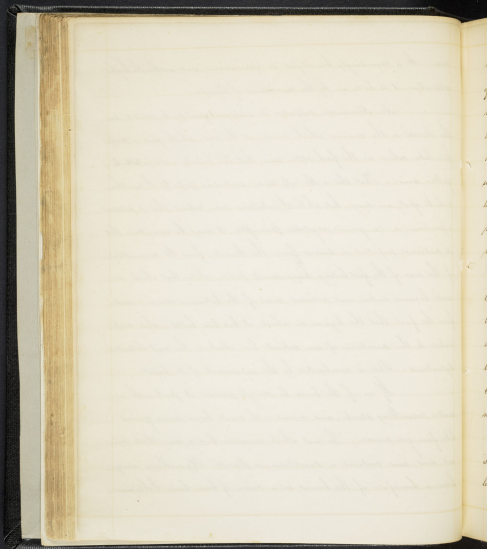
What is the precise *modus operandi* of the myrica in dysentery I am not prepared to say with sufficient confidence. It certainly possesses a very considerable astringent quality, and in an eminent degree that of a narcotic or anæsthetic, which we obtain almost in every case by immediately calving the morbid excitement. To the taste the grain is astringent and somewhat styptic, making a very sensible impression on the fauces; and has a pleasant balsamic odour. My experiments with the article did not allow me to state with any assurance, which part of the plant or grain possesses ^{the} most active qualities, only having used the concrete I am utterly unable to make any comparison which the subject seems to afford. It is long since I first received a specimen of the shrub, which now through the politeness of my friend Mr. Henry Washen of Harrisburg, on his return from a tour to the lakes during the past sum-



men. It is exceedingly beautiful in appearance, and worthy the high estimation it is held in by the Connoisseurs of Europe.

Dr. Hernandez, supported its acting quality to reside in the kernel or the covering which surrounds the seed, which gives a very fine lake colour in the first state; and that this property is attributable to galleic acid. That this is the only and exclusive property I neither wish to spot nor deny, but while I entertain some doubts that it possesses a peculiar, a sui generis, vegetable principle, it may be admitted that its medicinal properties is derived from the kernel. From the circumstance of the seed of the first being much paler, while that which succeeds becomes darker and possesses more of the balsamic odour; and from the fact that the liquor in which it has been boiled, when evaporated to the consistence of an extract has checked the most obstinate dysenteries. This is corroborated by the experiments of its basis.

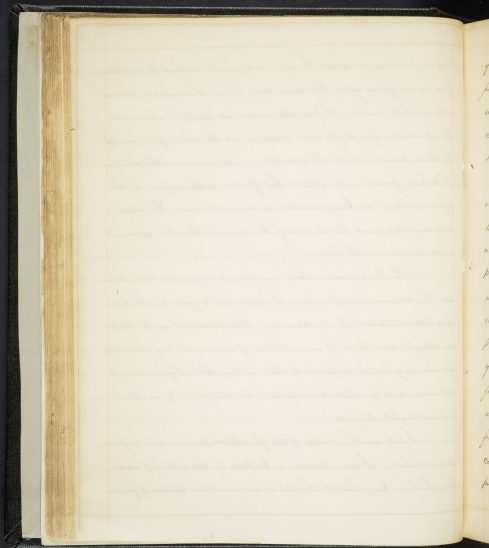
If one of the berries be strongly pressed it puts forth a matter resembling starch, and mixed with small brown smooth grains like fine gun powder. The part which remains has a very thick leguminous coat, and contains a dysenteric kernel. By rubbing together a handful of the berries in a sieve of horse hair, I obtained



a grey powder, in which the eye distinguished without the assistance of a magnifying glass the small brown grains I mentioned, mixed with a white powder. I put this powder into alcohol, which with the assistance of a slight heat, dissolved all the white part, and left the black powder which I separated; water poured on this solution in alcohol formed a precipitate that floated on the surface of the liquor, which on being melted produced the wax. This experiment completely proved that the non of the myria is the white gummed matter that surrounds the berries.

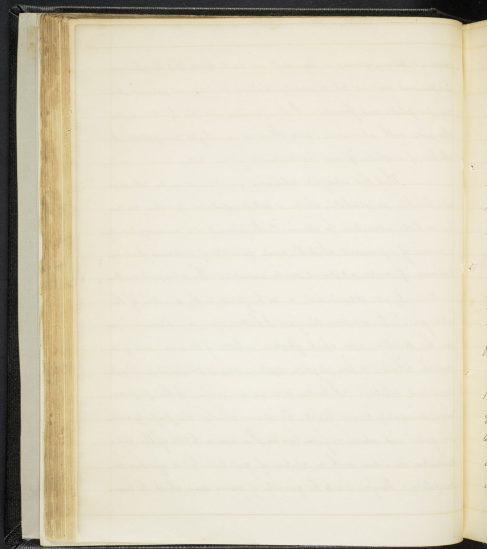
The black powder which was separated appeared to me to contain the glowing principle, and I hoped also to find in it the beautiful lake mentioned by Mr. Alexander. With this notion I washed the powder strongly, and boiled it in a solution of acid sulphate of alumina; but was very much surprised to obtain nothing but a liquor scarcely coloured, and by which the alumina, when precipitated by an alkali, was but slightly tinged.

I took another portion of the fine black powder, and infused it in alcohol. I soon obtained a tincture of the colour of iron scales, which on being heated, became as red as a strong tincture of galls.



quinn, or terra japonica. The result led me to think that the coloring principle was osmium; but on adding water to it I did not perceive that any precipitate was formed. I then poured into this tincture water charged with alumina, and obtained a slight precipitate. A solution of sulphate of iron immediately formed ink.

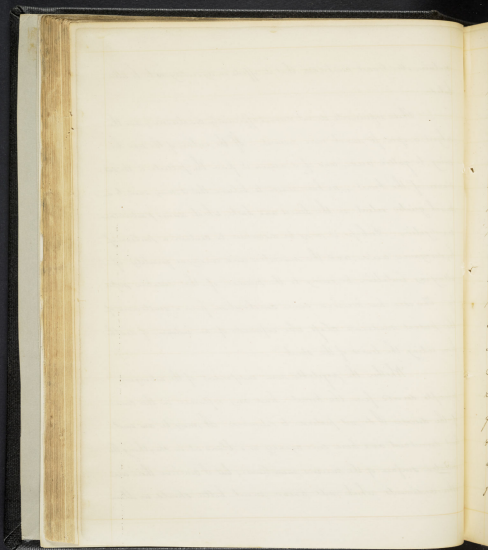
What this strongest coloring principle may be which is only soluble in alcohol, which is not precipitated by water, and has so little attraction for alumina? It seems that it is necessary to make a series of experiments which the small quantity of substance I was in possession of would not permit me to undertake. The strongest matter mentioned by Mr. Alexander must be found in the direction of the color grain. To ascertain this fact I bettered some in a silver saucepan, the surface upon which floated a little of the same, was of a greenish colour, its taste slightly styptic, and it precipitated black feruginous solutions. I heated it in an iron vessel for that purpose, and it immediately became black. To discern whether this property arose from gallic acid alone, or from tannin, I mixed a little of the concentrated decoction with a solution of gelatine, but it afforded no precipitate. Therefore it is to the quantity of gallic acid which the berries



contains, the latest concludes that its effects in dysentery are to be attributed.

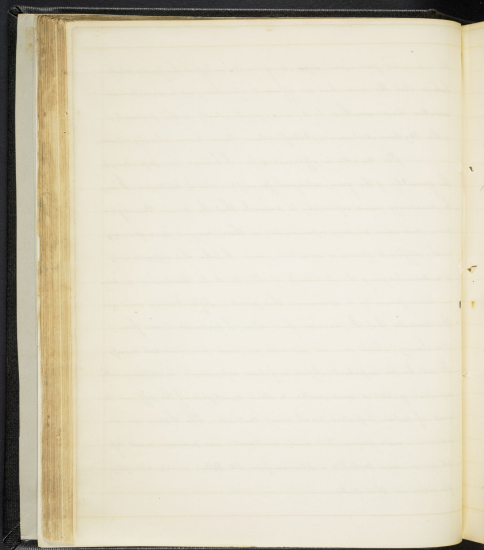
These experiments do not seem sufficiently conclusive, and the subject is open for much more research. If the pain of the bow is owing to gastric acid, and if it arises from the pectus or the sub-stance of the bowels, we have reason to believe that it may exist to a much greater extent in the leaves and bark, which deserve particular investigation. Perhaps it may be discovered to contain a portion of hydrocyanic acid, and the narcotic and anodyne quality of allaying irritation be owing to the presence of that sensitive property, this idea has received some confirmation from a gentleman of the present medical class who informed of an instance of death from eating the leaves of this shrub.

Whether the papillae are independent of the strongest principle derived from the kernel, has any influence in the cure of the disease I do not pretend to determine. It may be an excellent emollient and have some agency as a bland oil in soothing the irritated surface of the mucous membrane; but I conceive there are other condiments which will answer much better should we obtain

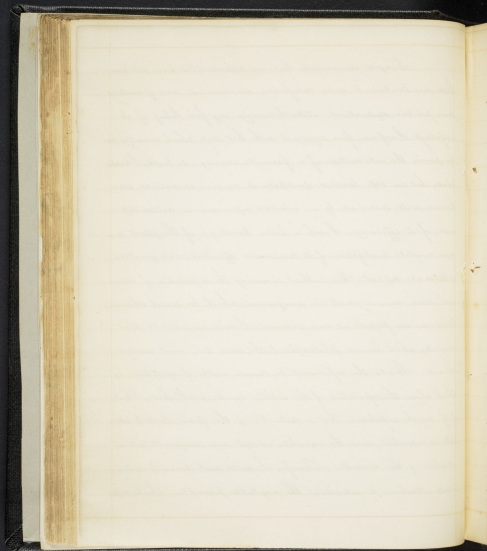


the astringent principle separate from it: unless it be fairly estab-
lished that the wine has an effluent operation, as is sometimes
asserted and ascribed to it; and particularly in the preparation
of the *Cydonium Salmonii* & *Chitificatum* can be already shown.

The Canale is efficient only, I believe, in proportion to
the quantity of the green astringent principle that it contains. It may
be necessary now explicitly to remark that the species Pennsylvan-
ica was used in my experiments; as there may a discrepancy
in the different species & varieties; and I take this opportunity
of acknowledging the politeness of Dr. W. & G. Barlow in advising
me more precisely to determine this point. After having used all
the Canale that I received from Erie, I procured some from
New Jersey, which did not act with as much promptness and success.
It will be an important object, in future experiments, to determine the
relative quantities and make a strict analysis of the different de-
grees of astringent principle each may contain. The Jersey wine is
yellowish, more granulated and unctuous; and possesses much less
astringency: and probably is obtained from the *Salix*, which chiefly
flourishes in that State.



I regret exceedingly that my opportunities have not enabled me to come to more satisfactory conclusions, and of making some positive deductions. Notwithstanding my firm belief of its usefulness I refrain from giving it with that ship which usually accompanies the introduction of a favorite remedy: in truth I have made but one step towards developing its medicinal virtues, and however well sustained, by an extensive experience in various diseases, of its efficacy, I, with a better knowledge of the plant, a more complete investigation of its comparative affinities, and greater collateral support; then without incurring the imputation of idle enthusiasm and dogmatical arrogances, which for so long characterized modern propositions and opinions, I would urge it with that modesty which becomes philosophic truth, and true merit always obtains. Should the experiment be deemed worthy of repetition, by which alone the reputation of the article can be established I think it of much importance, that a distinction of the species should be taken into consideration, and the reasonable strength and consequently active quality of the concrete. Therefore I must most strenuously recommend attention to extending the popular principles, which will

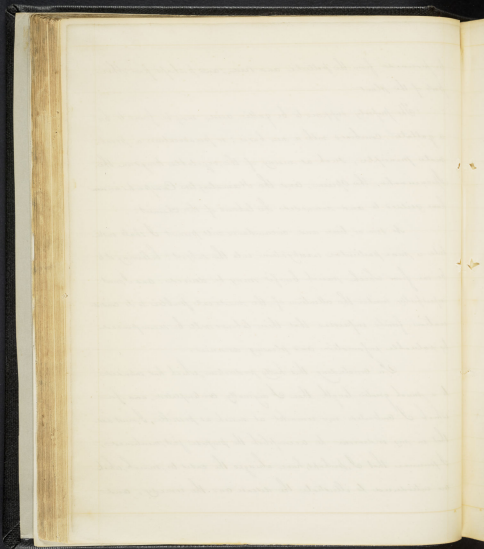


be prepared from the peltule and seed; and perhaps from other
part of the plant

The property, supposed to be gallic acid, may be found to be
a gallate, combined with a new basis; or perhaps with a primi-
tive principle, such as many of the vegetable kingdom. The
Spermacoce, the Opium, and the Hamamelis Compositifera
have yielded to and rewarded the labours of the Chemist:

As soon as time and circumstances will permit I shall enter-
tune a more particular investigation into the subject: believing it to
be one from which much benefit may be derived: and I most
respectfully invite the attention of the medical public to its consid-
eration, firmly impressed that their labours will be recompensed
by valuable information and pleasing discoveries.

In concluding this hasty production, which has extended
to a much greater length than I originally contemplated, and for
which I contribute my remarks as much as possible, I must add
that in my endeavour to accomplish the purpose just mentioned,
I perceive that I, perhaps, have strayed the reader too much, which
are introduced to illustrate the disease and the remedy, and



much is left for the reader to infer. Thus, when I intimate a low
sinking, a hysterical condition, and requiring stimulants, I can
anticipate the ideas of all the symptoms, phenomena &c. etc. in
manifestations of that state: which to notice & repeat in each
case, would have consumed the time I sedulously essayed to save.

Done by the undersigned

Subscribed to the constitution of the

The Students are

of the

University of Pennsylvania

In the

Joseph B. Jones

1838

1838

1838

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